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TITLE: MOTORIZED BICYCLE

INVENTOR: MICHAEL COBB

DOC NO.: 5182

CROSS REFERENCES AND RELATED SUBJECT MATTER

This application relates to subject matter contained in provisional patent application serial number 60/130,393, filed in the United States Patent Office on April 19, 1999.

BACKGROUND OF THE INVENTION

The invention relates to a motor bike. More particularly, the invention relates to a belt driven bicycle which derives power from a horizontal shaft lawn-mower engine.

Bicycling is an activity preferred by many people for several reasons. First, bicycling is an enjoyable pastime. The thrill of moving along in the open air attracts numerous people to bike riding. Second, bicycling is great exercise.

The degree of exercise is determined by the distance traveled, and the type of terrain traveled. Third, bicycling is environmentally friendly transportation. Bicycling causes no toxic by-products, other than the carbon dioxide expelled from the bicyclist's lungs.

However, bicycling is limited by the stamina of the rider. Once the bicyclist becomes tired, cycling can become an unpleasant task. Further, a rider is often deterred from attempting to ride in hilly terrain, for fear that he might become tired and be forced to complete the ride even beyond the point of exhaustion.

Several variations on the basic bicycle concept have been developed over the years, in an effort to retaining some of the benefits of bicycle riding, while eliminating the drawbacks. In particular, motorcycles, mopeds, and motor scooters have been developed.

Motorcycles give the rider the thrill of outdoor riding, while eliminating the necessity to pedal. Thus, the rider can tackle hilly terrain, and travel along highways, keeping up with traffic. When compared with cars, motorcycles produce considerably less pollution. However, motorcycles require a large engine in order to be capable of maintaining highway speeds. Pedals are not provided on motorcycles, because they are much to heavy to pedal. Thus, riding a motorcycle provides little or no exercise to the rider.

Mopeds were developed as an attempt to marry the concept of a bicycle and a motorcycle. Mopeds provide pedals for

riding like a normal bicycle, and a relatively small motor for riding like a motorcycle. However, mopeds are still constructed largely like a motorcycle, making them expensive, and difficult to pedal.

Motor scooters were developed as a further attempt at providing inexpensive motorized transportation. Motor scooters are limited, in that they are only suitable for short ranges, and provide no exercise to the rider.

While these units may be suitable for the particular purpose employed, or for general use, they would not be as suitable for the purposes of the present invention as disclosed hereafter.

SUMMARY OF THE INVENTION

It is an object of the invention to produce a motorized bicycle which allows the bicycle to be selectively pedaled, or driven under power.

It is another object of the invention to produce a motorized bicycle which is simplistic in design, so as to be economical to manufacture. Accordingly, the motorized bicycle employs a horizontal shaft lawnmower engine, which is linked to the rear wheel with a belt drive.

It is a further object of the invention to provide a motorized bicycle which is easy to operate. Accordingly, a hand operated throttle is provided to rev the engine, and a foot pedal operated clutch is provided to engage the engine with the rear wheel.

The invention is a motorized bicycle, using a standard bicyle frame, having a front wheel and rear wheel attached thereto. Pedals are provided are are linked to the rear wheel with a drive train to allow the bicyle to operated with pedal power. An internal combustion engine is linked to the drive train with a clutch, for selectively allowing the engine to be engaged to drive the bicycle. A throttle is provided for controlling the engine, and brakes are provided for slowing the wheels of the bicycle.

To the accomplishment of the above and related objects the invention may be embodied in the form illustrated in the accompanying drawings. Attention is called to the fact,

however, that the drawings are illustrative only. Variations are contemplated as being part of the invention, limited only by the scope of the claims.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings, like elements are depicted by like reference numerals. The drawings are briefly described as follows.

FIG 1 is a diagrammatic perspective view of a motorized bicycle of the instant invention.

FIG 2 is a top plan view of the a tensioned belt which transmits power from the motor of the instant invention to a pulley which is integral with a rear wheel thereof.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIG 1 illustrates a motorized bicycle 10 of the instant invention. The motorized bicycle 10 comprises a bicyle frame assembly 12 having a front wheel 14 and rear wheel 16 rotateably secured thereto as is commonly known to those skilled in the art. The frame assembly 12 is of the type commonly used for ordinary pedal-powered bicycles.

However, in accordance with the present invention, as seen clearly in FIG 1, a horizontal shaft internal combustion engine 18 such as those commonly employed in lawn mowers and low powered devices of similar type is secured to a central region of the frame assembly 12. A motor pulley 20 extends from one side of the internal combustion engine 18. A wheel pulley 22 is affixed concentrically to the rear wheel 16 of the motorized bicycle 10, and extend from the side thereof, on said same side as that from which the motor pulley 20 extends.

As shown in FIG 2, drive belt 24 forms a continuous loop from the motor pulley 20 to the rear wheel pulley 22, transmitting power from the internal combustion engine 18 to the rear wheel 16, causing rotation thereof and causing the motorized bicycle 10 to be propelled laterally. In accordance with the principles of the present invention, the belt and pulley drive train can be substituted with a chain drive train.

A throttle mechanism 23, preferably located at a hand grip 26 such as that shown in FIG 1 allows the user to increase the speed of the internal combustion engine 18 and hence the speed of the motorized bicycle 10. It should be understood, however, that said throttle mechanism 23 can be located at any location upon the frame assembly 12 or related components thereof. In addition, brake levers may be provided at one or both of the hand grips 26, and may be used to control brakes located at the front and/or rear wheels.

A pedal assembly 28 having a pedal sprocket or pulley is also in communication with the drive belt 24, and thus also capable of transmitting power to the rear wheel 16 via the rear wheel pulley 22. A clutch pedal allows the user to selectively switch between manual pedal motion to propel the bicycle 10 and motorized propulsion thereof. A user may actuate said clutch pedal in order to engage the motor pulley 20 and cause the internal combustion engine 18 to propel the bicycle 10, or may actuate the clutch pedal in order to disengage the motor pulley 20 and alternatively engage the sprocket or pulley to allow the user to manually propel the motorized bicycle 10.

In conclusion, herein is presented a motorized bicycle which maintains the advantages of a bicycle, while providing the convenience of motorized power when desired. The invention is illustrated by example in the accompanying drawing figures. However, numerous variations are possible while adhering to the principles of the present invention.